

# MASSACHUSETTS WATER RESOURCES COMMISSION

## Hydrologic Conditions in Massachusetts

### February 2016 Summary



- February precipitation was above normal.
- February streamflows were normal and above normal.
- February groundwater levels were in the normal range.
- February reservoir levels were generally normal.

#### PRECIPITATION CONDITIONS

**Summary:** February precipitation was above normal.

Region	February Estimated Rainfall: Composite Sites Reporting (inches)	Departure from Normal (inches)	MA Drought Management Plan Levels	
			Standardized Precipitation Index	Percent of Normal Index
Cape Cod & Islands	5.83	+2.33	Normal	Normal
Central	4.61	+ 1.11	12-mo Advisory	Normal
Connecticut River	5.22	+ 2.05	Normal	Normal
Northeast	3.53	+ 0.23	Normal	Normal
Southeast	5.02	+ 1.49	Normal	Normal
Western	5.12	+ 2.32	Normal	Normal

Key to Levels
Normal
Advisory
Watch
Warning
Emergency

#### Feb 2016 Total Observed Rainfall from National Weather Service

found at <http://water.weather.gov/precip/> estimated from radar data correlated to NWS rainfall gauge reports



#### Weather Events of Note

**Source:** NWS Taunton E-5 Report Feb 2016

A significant rain event occurred during the overnight of the 24th into the 25th. Most of the precipitation occurred between 11 pm and 6 am. Across southern New England, the highest rainfall totals from this event occurred across central and western Massachusetts, as well as northern Connecticut. In this area rainfall totals ranged from 1.5 to over 3 inches. Lesser rainfall totals of 0.5 to 1.5 inches fell across eastern MA and RI. Finally along the Cape and Islands, rainfall of 0.5 inch or less was reported. This event prompted a strong rise in area rivers and streams, especially those in western Massachusetts, and the mainstem Connecticut River in Connecticut. The Connecticut River exceeded Flood Stage at Montague, Northampton, Thompsonville, Hartford and Middle Haddam. In addition, the Westfield River in Westfield came within 0.2 feet of Flood Stage. Several additional waterways reached or exceeded flood stage. In addition to the river flooding, a couple of road washouts were reported in Chester MA. Portions of Abbott Hill Road eroded away, and a minor road washout occurred on Skyline Trail

## STREAMFLOW CONDITIONS

**Summary:** February streamflow conditions were normal.

### General Streamflow Conditions in Massachusetts February 2016

Region	Streamflow Conditions	MA Drought Management Plan Streamflow Index
Cape Cod & Islands	ND	ND
Central	Normal	Normal
Connecticut River	Normal	Normal
Northeast	Normal	Normal
Southeast	Normal	Normal
Western	Normal	Normal

#### Key to Levels

Normal

Advisory

Watch

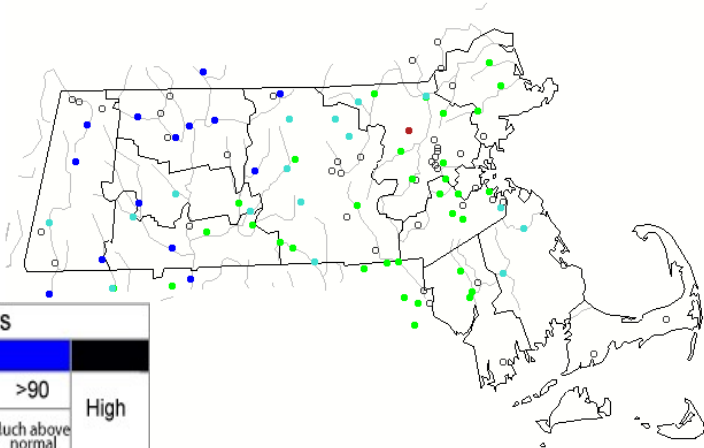
Warning

Emergency

**Note:** Streamflow conditions for individual streamflow-gaging stations may differ from general conditions.  
ND: no data

### February 2016 Monthly Streamflow Compared to Historical February

Average January 2016 streamflow monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program. See map at right found at: <http://waterwatch.usgs.gov/index.php?r=ma&id=mv01d>



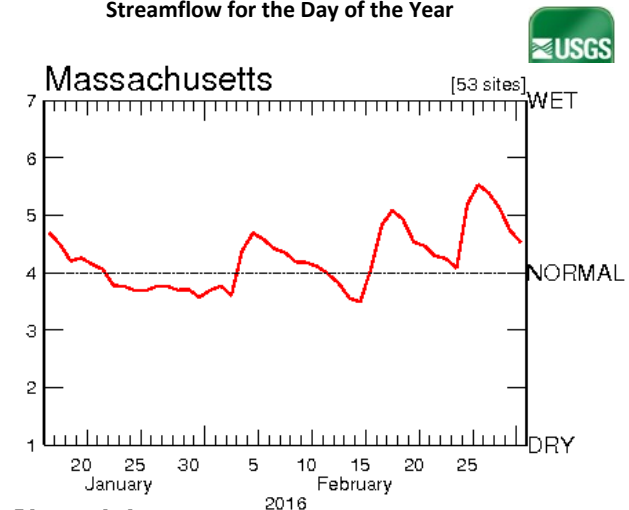
Explanation - Percentile classes					
Low	<10	10-24	25-75	76-90	>90
	Much below normal	Below normal	Normal	Above normal	Much above normal
					High

### Time Series Plot of Real-Time Streamflow Compared to Historical Streamflow for the Day of the Year

This graph depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the 45-day period of Jan. 17 to Feb. 29. An updated summary plot may be found at: <http://waterwatch.usgs.gov/index.php>

#### KEY:

- 1 = New record low for day
- 2 = < 10<sup>th</sup> percentile
- 3 = 10<sup>th</sup> – 24<sup>th</sup> percentile
- 4 = 25<sup>th</sup> – 74<sup>th</sup> percentile
- 5 = 75<sup>th</sup> – 89<sup>th</sup> percentile
- 6 = > 90<sup>th</sup> percentile
- 7 = New record high for day



## GROUNDWATER LEVELS

**Summary:** February groundwater levels were normal in all regions.

### General Groundwater Conditions in Massachusetts February 2016

Region	Groundwater Conditions	MA Drought Management Plan Groundwater Index
Cape Cod & Islands	Normal	Normal
Central	Normal	Normal
Connecticut River	Normal	Normal
Northeast	Normal	Normal
Southeast	Normal	Normal
Western	Normal	Normal

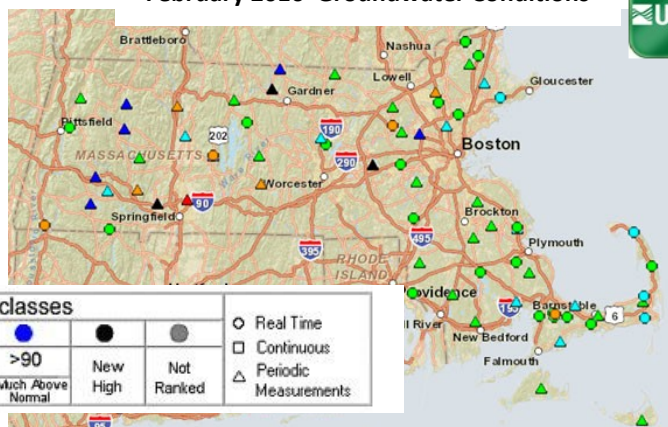
**Note:** Groundwater conditions for individual wells may differ from general conditions. ND: no data

The USGS Groundwater Conditions for the end of February 2016 can be viewed at the web site: [http://ma.water.usgs.gov/water\\_statement/2016\\_02/index.html](http://ma.water.usgs.gov/water_statement/2016_02/index.html)

### February 2016 Groundwater Conditions



Explanation - Percentile classes							
New Low	<10	10-24	25-75	76-90	>90	New High	Not Ranked
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal		



## RESERVOIR LEVELS

**Summary:** February reservoir levels were generally normal, based on percent full values, as reported by participating water suppliers. Of note, Worcester reservoirs returned to normal.

### General Reservoir Levels in Massachusetts at the end of February 2016

Region	Reservoir Levels	MA Drought Management Plan Reservoir Index
Cape Cod & Islands	Normal	Normal
Central	Normal	Normal
Connecticut River	Normal	Normal
Northeast	Normal	Normal
Southeast	1 of 2 Medium Below Normal	Advisory
Western	Normal	Normal

Key to Levels

Normal

Advisory

Watch

Warning

Emergency

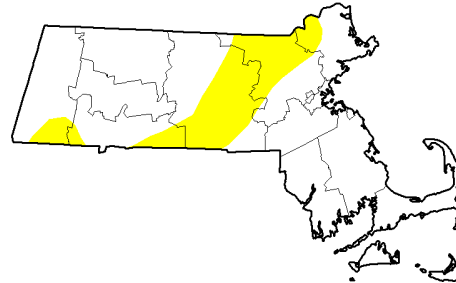
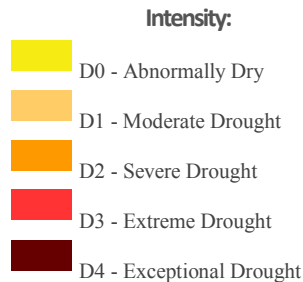
## NWS/NOAA DROUGHT OUTLOOK AND FORECAST

### U.S. Drought Monitor: Massachusetts March 8, 2016

**Summary:** As of March 8, 2016, the U.S. Drought Monitor shows regions of abnormally dry conditions in Massachusetts.

Produced by the National Drought Mitigation Center (NDMC). Intensity based on NDMC criteria. For updated map see:

<http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?MA>



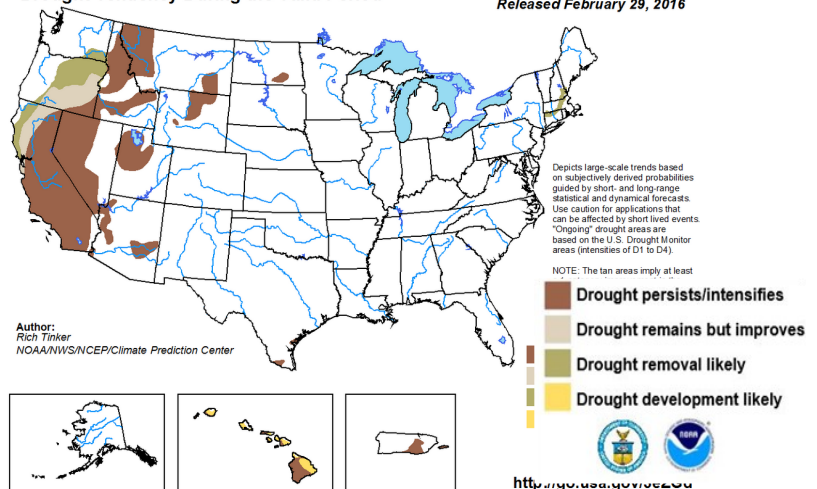
### Monthly Drought Outlook for March 2016

#### U.S. Monthly Drought Outlook Drought Tendency During the Valid Period

Valid for March 2016  
Released February 29, 2016

The NOAA Monthly Drought Outlook (released Feb. 29 valid for March 2016) indicates drought removal likely in central Massachusetts.

[http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/month\\_drought.png](http://www.cpc.ncep.noaa.gov/products/expert_assessment/month_drought.png)



## NOAA NATIONAL WEATHER SERVICE CLIMATE PREDICTION CENTER

The Climate Prediction Center 6-10 day Outlook valid March 14-18 indicates above normal temperatures and precipitation for Massachusetts. (<http://www.cpc.noaa.gov/products/predictions/610day/>). The Center's three-month outlook for March, April, and May shows above normal temperatures and no signal for precipitation anomaly ([http://www.cpc.noaa.gov/products/predictions/long\\_range/seasonal.php?lead=1](http://www.cpc.noaa.gov/products/predictions/long_range/seasonal.php?lead=1)). More information is available at (<http://www.cpc.noaa.gov/index.php>).

**Key Links:** Massachusetts Drought Management Plan: <http://www.mass.gov/eea/docs/eea/wrc/droughtplan.pdf>

**March 10, 2016:** This report was prepared by the Massachusetts Department of Conservation and Recreation. Data may be preliminary in nature. Additional information, previous and future water conditions reports can be found on our web site: <http://www.mass.gov/eea/agencies/dcr/water-res-protection/water-data-tracking/precipitation-composite-current-conditions.html>